

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the Application:

Listing of Claims:

B1
C1
Claim 1 (Currently amended): A method for caching and accessing access rights in a distributed computing system, the method comprising the steps of:
accessing, by a software agent, a directory service, wherein the agent is located on a deputization point coupled to the directory service, and wherein the directory service comprises the rights of a software principal to a resource;
updating, by the agent, the rights to an access control list cache, wherein the access control list cache is coupled to the deputization point and to the principal;
receiving, at the access control list cache, a request from the principal for the rights;
retrieving, by the access control list cache, the rights; and
forwarding, to the principal, the rights; and
deputizing the principal to enable the principal to delegate the rights to at least one software entity, wherein the at least one software entity can exercise the rights due to the delegation.

Claim 2 (Original): The method of claim 1, wherein the access control list cache is comprised of a first table comprising the principal that has access to the resource.

Claim 3 (Original): The method of claim 1, wherein the access control list cache is comprised of a second table comprising the rights of the principal to the resource.

Claim 4 (Original): The method of claim 1, wherein the access control list cache is comprised of a third table comprising a cached access to the resource object.

Claim 5 (Currently amended): The method of claim 2 further comprising ~~the step~~ of invoking, by the directory service, a resource manager, if the first table does not contain the principal that has access to the resource, wherein the resource manager is coupled to the directory service and comprises access information and rights of the principal to the resource.

Claim 6 (Currently amended): The method of claim 5 further comprising ~~the step~~ of mapping, by the resource manager, an access control of the rights in the resource manager to an access control of the rights in the directory service.

Sub C1 } Claim 7 (Currently amended): The method of claim 6 further comprising ~~the step~~ of updating, by the resource manager, the mapped access control of the rights to the access control list cache.

Claims 8 and 9 (Cancelled).

Claim 10 (Currently amended): The method of claim 1, further comprising at least one of the following ~~steps~~ actions from the group consisting of:

- asynchronously updating, by the agent to the access control list cache, the rights, when the rights are added to the directory service;

- asynchronously updating, by the agent to the access control list cache, the rights, when the rights are removed from the directory service;

- asynchronously updating, by the agent to the access control list cache, the rights, when the request from the principal is received;

- synchronously updating, by the agent to the access control list cache, the rights, when the rights are added to the directory service;

- synchronously updating, by the agent to the access control list cache, the rights, when the rights are removed from the directory service;

- synchronously updating, by the agent to the access control list cache, the rights, when the request from the principal is received;

updating, at a scheduled time, the rights by the agent to the access control list cache; and

updating, after a time to live has expired, the rights by the agent to the access control list cache.

Claim 11 (Currently amended): A distributed computing system supporting access control caching, the system comprises:

a plurality of computers, each having a memory and a processor;
a plurality of communication links connecting the plurality of computers;
a principal located on a first one of the computers;

an agent located on a second one of the computers;

a resource located on a third one of the computers;

a first set of rights located on a fourth one of the computers;

a second set of rights located on a fifth one of the computers;

means for accessing, by the agent, the first set of rights of the principal to the resource;

means for updating, by the agent, the first set of rights to an access control list cache, wherein the access control list cache is located on a sixth one of the computers;

means for receiving, at the access control list cache, a request from the principal for the first set of rights;

means for retrieving, by the access control list cache, the first set of rights;
and

means for forwarding, to the principal, the first set of rights; and

means for providing, to the principal, a deputization certificate adapted for enabling the principle to copy its rights to at least one software entity.

Claim 12 (Original): The system of claim 11 further comprises means for invoking the second set of rights, if the first set of rights is not located on the fourth one of the computers.

Claim 13 (Original): The system of claim 12 further comprises means for mapping an access control of the of the second set of rights to an access control of the first set of rights.

Claim 14 (Original): The system of claim 13 further comprises, means for updating the access control list cache with the mapped access control of the first set of rights.

B1
Sub C1 } Claim 15 (Currently amended): A computer storage medium having a configuration that represents data and instructions which will cause performance of method steps for caching and accessing rights in a distributed computing system, the method comprising ~~the steps of~~:

accessing, by a software agent, a directory service, wherein the agent is located on a deputization point coupled to the directory service having the rights of at least one principal to at least one resource;

updating, by the agent, the rights to an access control list cache, wherein the access control list cache is coupled to the deputization point, and wherein the access control list cache is coupled to the principal;

receiving, at the access control list cache, a request from the principal for the rights;

retrieving, by the access control list cache, the rights; and

forwarding, to the principal, the rights;

forwarding, to the principal, a deputization credential empowering the principal to deputize software entities; and

deputizing, by the principal, at least one of the software entities, wherein the software entity can exercise the rights due to the deputization.

Claim 16 (Currently amended): The configured storage medium of claim 15 further comprising ~~the step of~~ invoking, by the directory service, a resource manager, if the access control list cache does not contain one of the rights, wherein the resource

manager is coupled to the directory service, and wherein the resource manager comprises the one right.

Claim 17 (Currently amended): The configured storage medium of claim 16 further comprising ~~the step of~~ mapping, by the resource manager, an access control of the one right to an access control of the rights.

Claim 18 (Currently amended): The configured storage medium of claim 17 further comprising ~~the step of~~ updating, by the resource manager, the mapped access control of the rights to the access control list cache.

Claim 19-22 (Cancelled).

Claim 23 (New): A method for controlling access within a computer system using deputization, the method comprising:

receiving an access authorization request at a deputization point from a principal;
determining whether to validate the principal based on the access authorization request;

identifying an access authorization level for the principal if the principal is validated; and

providing the principal with deputizing authority at the identified access authorization level, wherein the deputizing authority enables the principal to give at least one software entity within the computer system a level of access authorization equal to or lesser than the principal's access authorization level.

Claim 24 (New): The method of claim 23 wherein determining whether to validate the principal includes comparing information present in the access authorization request to a plurality of access rights contained in an access control list cache.

sub
C1 }
Claim 25 (New): The method of claim 24 further comprising:
invoking a resource manager if the access control list cache does not contain an
access right associated with the access authorization request;
locating the access right associated with the access authorization request; and
mapping the access right into the plurality of access rights.

B1
Claim 26 (New): The method of claim 23 further comprising deputizing, by the
principal, a first software entity, wherein the first software entity has a level of access
authorization equal to or lesser than the principal's access authorization level.

Claim 27 (New): The method of claim 26 wherein deputizing includes defining a
level of access authorization and a lifespan of the deputization.

Claim 28 (New): The method of claim 26 further comprising deputizing, by the
first software entity, a second software entity, wherein the second software entity has a
level of access authorization equal to or lesser than the first software entity's access
authorization level.
